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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,684	02/27/2002	Bo Shen	10016868-1	1394

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EXAMINER	
SENFI, BEHROOZ M	

ART UNIT	PAPER NUMBER
2613	

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/085,684	SHEN ET AL.	
	Examiner	Art Unit	
	Behrooz Senfi	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 October 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12,14-19 and 21-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12,14-19 and 21-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments (filed, 10/3/2005) with respect to independent claims 1, 8, 19 and 25 have been considered but are moot in view of the new ground(s) of rejection.

Applicant amended independent claims 1, 8, 19 and 25, and canceled claims 13 and 20.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

3. Claims 1 – 7, 19, 21 - 24 and 25 - 29 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, it is unclear as to what applicant actually means in regards to "provided less than all of the macro-blocks are characterized as intra coded" as now claimed. Clarification is requested. See also claims 19 and 25.

For the purpose of art rejection, examiner will interpret the above-mentioned limitation, as best understood, as "coding mode selector based on the judgment/counting of the intra coded macro-block with respect to the predetermined threshold".

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1 – 4, 7 – 11, 14, 16 – 19, 21 and 23 – 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusewitz (US 2003/0021345) in view of Uenoyama et al (6,798,837).

Regarding claim 1, Brusewitz '345 teaches, reducing the resolution of video data, (fig. 3) and receiving compressed input data for a frame of a plurality of frames, wherein the frame is at a first resolution and comprises a plurality of macro-blocks (fig. 3, 121, 132) and down sampling the compressed input data to generate compressed down-sampled data ..... (fig. 3, 132), and decoding the compressed down-sampled data at the second resolution (fig. 3, 134).

Brusewitz '345 reference is silence in regards to, selecting a data processing function according to the number of the macro-blocks characterized as intra coded..., as now claimed. However, such features are well known and used in the prior art of video coding and decoding as evidenced by Uenoyama '837 (i.e. figs. 4 and 24, col. 9, lines 1 – 25).

Taking the combined teaching of Brusewitz and Uenoyama as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the Brusewitz decoding process by incorporating the coding mode selector, as taught by Uenoyama, to minimize the deterioration of image qualities.

Regarding claim 2, combination of Brusewitz and Uenoyama teaches, generating MV for the frame ..... (fig. 3, MV of Brusewitz and fig. 1, 206 of Uenoyama).

Regarding claim 3, combination of Brusewitz and Uenoyama teaches, generating MV for the frame (fig. 3, MV of Brusewitz). The combined teaching of Brusewitz and Uenoyama is silence in regards to averaging the MVs from the input data as claimed. However, Official Notice is taken to note that the above feature of averaging MVs is notoriously well known in motion compensated video compression to ensure no false detection of movement, thus improving the accuracy of motion detection.

Regarding claims 4, combination of Brusewitz and Uenoyama teaches, wherein the input data are compressed according to a discrete cosine transform-based compression scheme, wherein the input data comprise discrete cosine transform (DCT) coefficients (fig. 3, 132 of Brusewitz).

Regarding claim 7, combination of Brusewitz and Uenoyama teaches, media data are selected from the group consisting of, video data, audio data... as claimed (Uenoyama, fig. 1, video signal).

Regarding claims 8 - 9, the limitations claimed have been analyzed and rejected with respect to claim 1.

Regarding claim 10, which is substantially similar in scope as claim 1, therefore, the grounds for rejecting claim 1 also applies here. As for the additional limitation of motion compensation as claimed, please see (col. 6, lines 60 – 69 of Uenoyama).

Regarding claim 11, the limitations as claimed have been analyzed and rejected with respect to claim 1.

Regarding claim 14, the limitations claimed have been analyzed and rejected with respect to claim 1.

Regarding claims 16 - 17, the limitations claimed have been analyzed and rejected with respect to claims 3 - 4.

Regarding claim 18, combination of Brusewitz and Uenoyama teaches, quantization parameter (fig. 1, 208 of Uenoyama).

Regarding claim 19, the limitations claimed are the system corresponding to the methods of claim 1, which have been analyzed and rejected with respect to claim 1. Brusewitz discloses a corresponding system (fig. 3).

Regarding claim 21, combination of Brusewitz and Uenoyama teaches, motion vector generator coupled to the input buffer (fig. 22, of Uenoyama).

Regarding claim 23, the limitations claimed have been analyzed and rejected with respect to claim 4.

Regarding claim 24, the limitations claimed have been analyzed and rejected with respect to claim 7.

6. Claims 5 – 6, 12, 15, 22, 25 - 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brusewitz (US 2003/0021345) and Uenoyama et al (6,798,837) further in view of Vetro et al (US 6,671,322).

Regarding claim 5, combination of Brusewitz and Uenoyama teaches, generating an output data stream at the second resolution (fig. 4, abstract of Brusewitz), and furthermore teaches a compression rate to limit the coding amount to a predetermined bit-rate (col. 11, lines 26 – 35 of Uenoyama).

Combination of Brusewitz and Uenoyama reference is silence in regards to the details of determination of a bit rate for the output data stream using DCT coefficients from the input data as claimed. However, such features are well known and used in the prior art of video coding/decoding as evidenced by Vetro '322 (i.e. figs. 1 – 2, col. 2, lines 1 – 67, col. 3, lines 1 – 9).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the compression process by controlling the bit allocation as taught by Vetro to have the desired output bit-rate.

Regarding claim 6, the combined teaching of Brusewitz, Uenoyama and Vetro makes obvious the claimed input data are encoded according to a first compression scheme and the output data stream are encoded according to a second compression scheme (col. 9, lines 38 – 44 of Uenoyama).

Regarding claim 12, combination of Brusewitz and Uenoyama teaches, decoding the compressed down-sampled data to generate decompressed down-sampled data (fig. 4, 160 of Brusewitz). The combined teaching of Brusewitz and Uenoyama is silence in regards to, up-sampling the decompressed down-sampled data. However, such features are well known and used in the prior art of video coding/decoding as evidenced by Vetro '322 (i.e. fig. 11a, 1191).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to incorporate an up-sampler in the modified system/method of Brusewitz

and Uenoyama to up-sample the down-sampled image to generate the original image resolution as claimed.

Regarding claim 15, the limitations claimed have been analyzed and rejected with respect to claim 12.

Regarding claim 22, combination of Brusewitz and Uenoyama teaches, generating an output data stream at the second resolution (fig. 4, abstract of Brusewitz), and furthermore teaches quantization parameter (fig. 17 of Uenoyama). The combined teaching of Brusewitz and Uenoyama is silence in regards to the details of determination of a bit rate. However, such features are well known and used in the prior art of video coding/decoding as evidenced by Vetro '322 (i.e. figs. 1 – 2, col. 2, lines 1 – 67, col. 3, lines 1 – 9).

Taking the combined teaching of Brusewitz and Uenoyama and Vetro as a whole, it would have been obvious to one skilled in the art at the time of the invention was made to improve the compression process by controlling the bit allocation as taught by Vetro to have the desired output bit-rate.

Regarding claim 25, the limitations claimed have been analyzed and rejected with respect to claims 8 and 12.

Regarding claims 26 - 28, combination of Brusewitz, Uenoyama and Vetro teaches motion vectors ..... (fig. 5, 560 of Vetro, fig. 8 of Uenoyama and fig. 3 of Brusewitz), and averaging MV, in claim 27 (fig. 5, MV mapping of Vetro), and input data comprises DCT coefficients, in claim 28 (fig. 3, 132 of Brusewitz).

Regarding claim 29, the limitations claimed have been analyzed and rejected with respect to claim 22.

Contact

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Behrooz Senfi** whose telephone number is **(571) 272-7339.**

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Mehrdad Dastouri** can be reached on **(571) 272-7418.**

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(571) 273-8300

Hand-delivered responses should be brought to Randolph Building, 401 Dulany Street, Alexandria, Va. 22314.

Any inquiry of a general nature or relative to the status of the application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is **(571) 272-6000**.

B. M. S.

12/22/2005

VU LE
PRIMARY EXAMINER